

Technical Release Bulletin

Slide and Cover-slip Preparation: Calculating Sample Volume for Different Cover-Slips

Application: Any SQA-V / SPERMALITE Visualization System

Issue date: Tuesday, February 07, 2012

Subject: How to calculate the semen sample volume required when using different cover-slips.

Overview: To prepare a slide for visualization in the microscope (or SQA-V visualization system), the WHO recommends using a standard slide with a 22 X 22 mm cover-slip and 10 µl of sample. If the laboratory does not have this size cover-slip, a calculation can be made to determine the correct volume of sample to use with the available cover-slip.

Please note: If the sample volume is not correct for the size of the cover-slip, the sample will either spill out beyond the perimeter of the cover-slip (too much sample) or will not adequately disperse under the cover-slip (too little sample). The objective is to have the entire aliquot evenly dispersed at a 20 micron depth (so individual cells are seen – rather than layers of cells) under the cover-slip for accurate viewing and assessment of a representative sample.

SEMEN VOLUME FOR STANDARD SLIDE WITH DIFFERENT COVERSLIPS

Formula for calculating sample size: $A \text{ mm} \times B \text{ mm} \times 0.02 = \text{VOLUME } \mu\text{l}$ required

A and B = dimension of the cover-slip in millimeters. 0.02 is a constant and is the depth of sample required. Volume (in micro-liters) is the sample size required using the selected cover-slip.

Standard Cover-slip Dimensions, mm	Sample depth, micron	Semen Volume, µl
10x10	20	2.0
12x12	20	3.0
15x15	20	4.5
18x18	20	6.5
20x20	20	8.0
22x22	20	10.0
24x24	20	11.5
24x32	20	15.0
24x40	20	19.0
24x50	20	24.0

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